

No.

200500320



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Seminis Vegetable Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOMATO

'FDR 14-2056'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of November, in the year two thousand and seven.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Seminis Vegetable Seeds, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME FDR 14-2056	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 2700 Camino del Sol Oxnard, CA 93030-7967		5. TELEPHONE (include area code) (805) 647-1572		FOR OFFICIAL USE ONLY PVPO NUMBER 200500320 FILING DATE AUGUST 11, 2005	
		6. FAX (include area code) (805) 918-2545			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION CA		9. DATE OF INCORPORATION June 4, 1962	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)					
Ms. Carol Miller Seminis Vegetable Seeds, Inc. 37437 State Highway 16 Woodland CA 95695		Marcel Bruins (marcel.bruins@seminis.com) Seminis Vegetable Seeds, Inc. Physical address: Wageningse Afweg 31 NL-6702 PD Wageningen, The Netherlands (Postal: P.O. Box 97, NL-6700 AB Wageningen The Netherlands) PH: 31 317 468 428; FAX: 31 317 468 431			
11. TELEPHONE (Include area code) 530-669-6274		12. FAX (Include area code) 530-669-6112		13. E-MAIL Carol.I.Miller@Seminis.com 18. DOES THE VARIETY CONTAIN ANY TRANSGENESIS? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
14. CROP KIND (Common Name) Tomato		16. FAMILY NAME (Botanical) Solanaceae		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23) 21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
15. GENUS AND SPECIES NAME OF CROP Lycopersicon esculentum		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)					
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)					
24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)					

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER

SIGNATURE OF OWNER

NAME (Please print or type)

NAME (Please print or type)

Sharen Chaffin

Sharen Chaffin

CAPACITY OR TITLE

DATE

CAPACITY OR TITLE

DATE

IP Specialist

8-10-05

IR Specialist

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

US: Hybrid 'Phoenix' sold Aug. 12, 2004; 'Quincy' sold January 2005

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

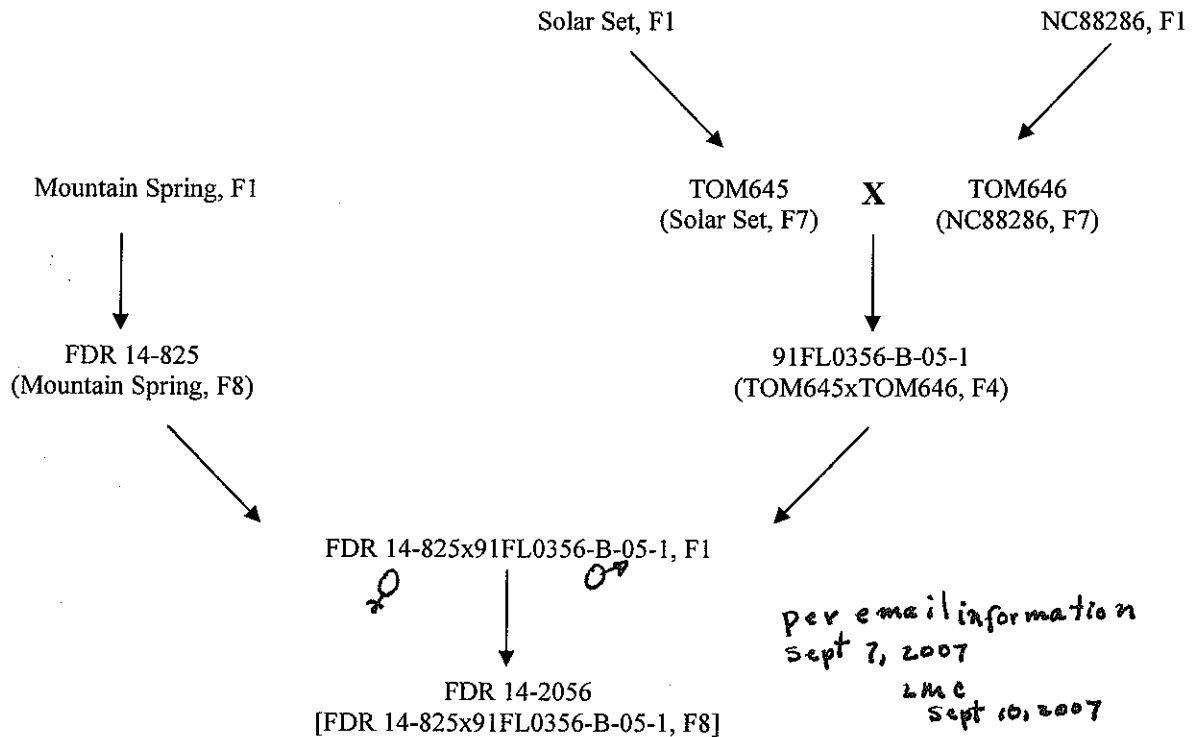
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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Origin and Breeding History of FDR 14-2056, Tomato

FDR 14-2056 was developed in South Florida by pedigree selection from a cross between FDR 14-825, a firm, uniform shouldered breeding line, and 91FL0356-B-05-1, a hot set, and uniform shouldered breeding line. Both varieties are Seminis proprietary breeding lines.

The breeding history is as follows:



Spring 1995	Parental lines, FDR 14-825 and 91FL0356-B-05-1 were grown in the greenhouse at Naples, FL and the cross was made.
Summer 1995	The F1 Hybrid was field grown at Arcadia, FL and F2 seed was harvested.
Summer 1996	The F2 was field grown at Arcadia, FL and F3 individual plant selections were harvested
Summer 1997	F3 selections were field grown at Arcadia, FL and F4 individual plant selections were harvested
Winter 1999	F4 selections were grown at Immokalee, FL and F5 individual plant selections were harvested
Summer 1999	F5 selections were grown at Immokalee, FL and F6 individual plant selections were harvested
Summer 2000	F6 selections were grown at Parrish, FL and F7 individual plant selections were harvested
Spring 2001	F7 selections were grown at Felda, FL and F8 individual plant selections were harvested
Summer 2001	F8 selections were grown at Felda, FL to check uniformity. Observations of the plants and fruit confirmed that the line was uniform.
Fall 2004	Uniformity was reconfirmed in field plantings at Immokalee, FL

FDR 14-2056 was selected to develop a line that sets fruit well under hot humid conditions that are normal conditions in late summer in Florida. It was also selected to have a vigorous plant type to better with stand the severe weather of the summer growing season. In addition, it was selected for extra large, firm, uniformly colored fruit with good horticultural quality.

From observations made during the 2001 and 2004 growing seasons, FDR 14-2056 was found to be uniform and stable within commercially acceptable limits. As is true with other tomato inbred lines, a very small percentage of variants can occur within commercially acceptable limits for many characteristics during the course of repeated multiplication. No genetic variants are known to occur and, to date, this inbred line has been observed to be completely uniform and stable for at least two generations.

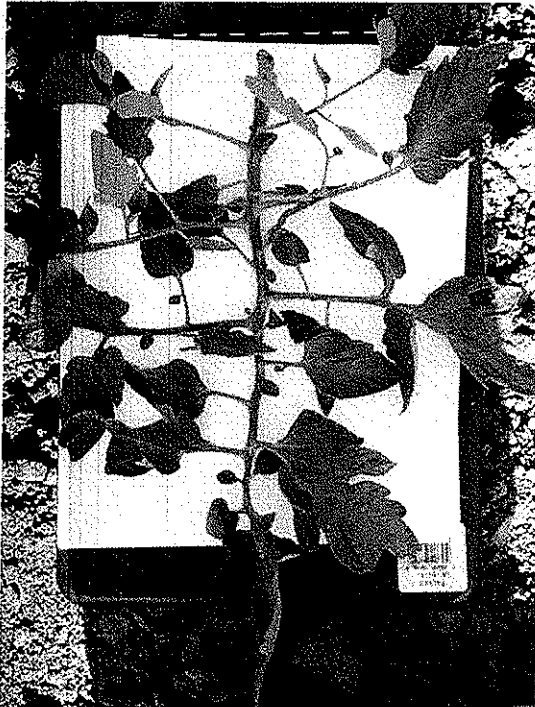
EXHIBIT B**Statement of Distinctness for Tomato, FDR 14-2056**

FDR 14-2056 is a determinate tomato variety that sets fruit well under the hot humid conditions of south Florida during late August and September. Fruit set is also excellent during less hot conditions. To our knowledge, the variety which most closely resembles the candidate variety is Florida 7171 (US PVP # 8900012).

The characteristic that most readily distinguishes the two varieties is shoulder color. FDR 14-2056 is uniform green in color, RHS 145C (refer to Photo # 1), whereas Florida 7171 has green shoulders non-uniform, RHS 144D (refer to Photo # 2). Also FDR 14-2056 has leaves type tomato compared to Florida 7171 that has leaves type potato.

Photo # 1:**FDR 14-2056 - Uniform green color of fruit****Photo # 2:****Florida 7171- Green shoulder color of fruit**

Leaf morphology: FDR 14-2056 has "Type 1" (Tomato) leaves (refer to Photo # 3), whereas Florida 7171 has "Type 2" (Potato) leaves (refer to Photo # 4).

Photo # 3:**FDR 14-2056 - Leaf type # 1****Photo # 4:****Florida 7171 - Leaf type # 2**

Fruit size: FDR 14-2056 has larger and heavier fruit (Averages: 118 mm in length, 82 mm in diameter, 264 g in weight - refer to Photo # 5), whereas Florida 7171 has smaller and lighter fruit (Averages: 112 mm in length, 71 mm in diameter, 186 g in weight - refer to Photo # 6).

Photo # 5:

FDR 14-2056 – Mature fruit

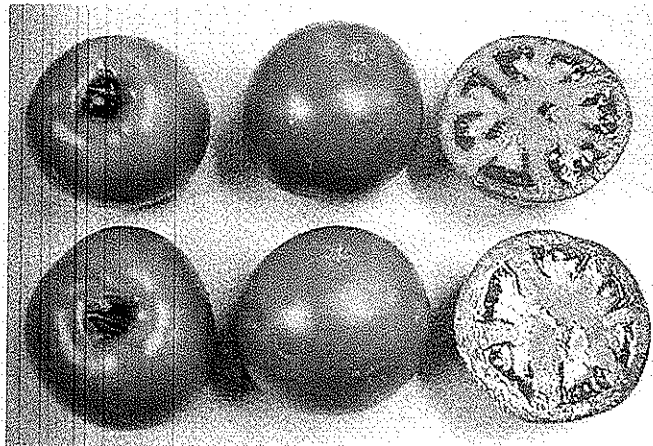
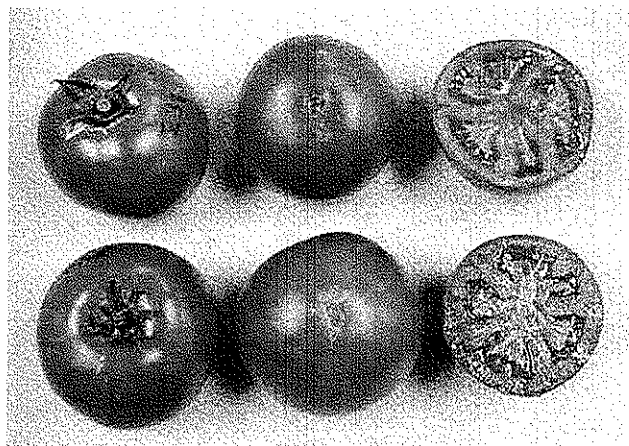


Photo # 6:

Florida 7171 – Mature fruit



Height of Mature Plant: FDR 14-2056 has an average plant height of 87 cm, whereas Florida 7171 has average plant height of 79 cm (refer to Photo # 7).

Photo #7:

FDR 14-2056 is on the left and Florida 7171 on the right.



REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved OMB NO 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY
TOMATO (*Lycopersicon esculentum*)

NAME OF APPLICANT(S) <i>Seminis Vegetable Seeds Inc.</i>	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME <i>FDR 14-2056</i>
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) <i>2700 Camino del Sol Oxnard, CA 93030-7967</i>	PVPO NUMBER <i>200500320</i>	

Choose responses for the following characters which best fit your variety. Complete this form as fully as possible for best characterization of the variety. When a single quantitative value is requested (e.g., fruit weight), your answer should be the mean of an adequate-sized, unbiased sample of plants. Use leading zeros when necessary (e.g., 0.2 or 0.8 L, etc.). The applicant variety should be compared with at least one well-known standard check variety of the same type (see list of recommended check varieties below), and grown in the same trials. The characters on this form should be described from plants grown under normal conditions of culture for the variety. Indicated by check whether trial data are from green house ☐ or field ☒ planting. Trials direct-seeded ☐ or transplanted; staked ☐ or unstaked ☒. Give locations and dates of seeding and transplanting here: *The trial was conducted in the field of Home Ranch III, at Woodland, CA.*
1. The ^{first} seeding was on 03/04/05 in Greenhouse, transplanted in the field on 04/08/05.
2. The second seeding was on 04/05/05 in the Greenhouse, transplanted in the field on 05/12/05.

COMPARISONS SHOULD BE MADE TO ONE OR MORE CHECK VARIETIES IN THE FOLLOWING LIST. IF AT ALL POSSIBLE, ENTER THE NUMBER OF THE CHECK IN BOXES WHERE IDENTITY OF CHECK IS REQUESTED.

1 = Ace 55 VF
2 = Campbell 37
3 = Chico III
4 = Flora Dade
5 = Florida MH-1
6 = Heinz 1350

7 = Homestead 24
8 = Marglobe
9 = Murietta
10 = New Yorker
11 = Ohio MR-13
12 = Red Cherry Large

13 = Red Rock
14 = Roma VF
15 = Rutgers
16 = Sunray
17 = Tropic
18 = UC 82

19 = VF 134
20 = US 28
21 = VF 145 B 7879
22 = Other (Specify) *FDR 14-532 * HP 168*
23 = Other (Specify)
24 = Other (specify)

1. SEEDLING

2 Anthocyanin in hypocotyl of 2 - 15 cm seedling: 1 = Absent 2 = Present

1 Habit of 3 - 4 week old seedling: 1 = Normal 2 = Compact

2. MATURE PLANT (at maximum vegetative development)

0.87 cm Height

2 Growth: 1 = Indeterminate 2 = Determinate

2 Form: 1 = Lax, open 2 = Normal 3 = Compact 4 = Dwarf 5 = Brachytic

2 Size of canopy (compared to others of similar type): 1 = Small 2 = Medium 3 = Large

2 Habit: 1 = Sprawling (decumbent) 2 = Semi-Erect 3 = Erect ('Dwarf Champion')

3. STEM

- 2 Branching: 1 = Sparse ('Brehm's Solid Red', 'Fireball') 2 = Intermediate ('Westover') 3 = Profuse ('UC 82')
- 1 Branching at cotyledonary or first leafy node: 1 = Present 2 = Absent
- 2 No. of nodes between first inflorescences: 1 = 1-4 2 = 4-7 3 = 7-10 4 = 10 or more
- 1.7 No. of nodes between early (1st - 2nd, 2nd - 3rd) inflorescences. 1.5 No. of nodes between later developing inflorescences.
- 3 Pubescence on younger stems: 1 = Smooth (no long hairs) 2 = Sparsely hairy (scattered long hairs) 3 = Moderately hairy 4 = Densely hairy or wooly

4. LEAF (mature leaf beneath the 3rd inflorescences)

- 1 Type: 1 = Tomato 2 = Potato ('Trip-L-Crop') 1 Morphology (choose illustration at the end of this form that is most similar)
- 3 Margins of major leaflets: 1 = Nearly entire 2 = Shallowly toothed or scalloped 3 = Deeply toothed or cut, sps. Toward base
- 2 Marginal rolling or wiltiness: 1 = Absent 2 = Slight 3 = Moderate 4 = Strong
- 2 Onset of leaflet rolling: 1 = Early-Season 2 = Mid-Season 3 = Late Season
- 2 Surface of major leaflets: 1 = Smooth 2 = Rugose (bumpy or veiny)
- 2 Pubescence: 1 = Smooth (no long hairs) 2 = Normal 3 = Hirsute 4 = Wooly

5. INFLORESCENCE (make observations on 3rd inflorescence)

- 3 Type: 1 = Simple 2 = Forked (2 major axes) 3 = Compound (much branched)
- 0.7 Number of flowers in inflorescence. Average
- 1 Leafy or "running" inflorescences: 1 = Absent 2 = Occasional 3 = Frequent

6. FLOWER

- 1 Calyx: 1 = Normal, lobes awl-shaped 2 = Macrocalyx, lobes large, leaflike 3 = Fleshy
- 1 Calyx-lobes: 1 = Shorter than corolla 2 = Approx. equalling corolla 3 = Distinctly longer than corolla
- 1 Corolla color: 1 = Yellow 2 = Old Gold 3 = White or Tan
- 2 Style pubescence: 1 = Absent 2 = Sparse 3 = Dense
- 1 Anthers: 1 = All fused into tube 2 = Separating into 2 or more groups at anthesis
- 1 Fasciation (1st flower of 2nd or 3rd inflorescence): 1 = Absent 2 = Occasionally present 3 = Frequently present

7. FRUIT (3rd fruit of 2nd or 3rd cluster) For the first 5 characters below, match your variety with the most similar illustration on pages at the end of this form.

- 3 Typical fruit shape 1 Shape of transverse section 2 Shape of stem end
- 2 Shape of blossom end 2 Shape of pistil scar
- 1 Abscission layer: 1 = Present (pedicellate) 2 = Absent (jointless)
- 1 Point of detachment of fruit at harvest: 1 = At pedicel joint 2 = At calyx attachment
- 1.3 mm Length of pedicel (from joint to calyx attachment)
- 1.18 mm Length of mature fruit (stem axis) 1.12 mm Length, check var. no. 2.2
- 0.82 mm Diameter of fruit at widest point 0.71 mm Diameter, check var. no. 2.2
- 2.64 g Weight of mature fruit 1.86 g Weight, check var. no. 2.2
- 3 No. of locules: 1 = Two 2 = Three and four 3 = Five or more
- 1 Fruit surface: 1 = Smooth 2 = Slightly rough 3 = Moderately rough or ribbed
- 1 Fruit base color (mature-green stage):
1 = Light Green ('Lanai', 'VF 145-F5') 2 = Light Gray-Green 3 = Apple or Medium Green ('Heinz 1439 VF') 4 = Yellow Green 5 = Dark Green
- 1 Fruit Pattern (mature-green stage): 1 = Uniform Green 2 = Green-Shouldered 3 = Radial Stripes on Sides of Fruit

7. FRUIT (continued)

- Shoulder color if different from base: 1 = Dark Green 2 = Grey Green 3 = Yellow Green
- 5 Fruit color, full-ripe: 1 = White 2 = Yellow 3 = Orange 4 = Pink 5 = Red 6 = Brownish 7 = Greenish 8 = Other (specify) _____
- 3 Flesh color, full-ripe: 1 = Yellow 2 = Pink 3 = Red/Crimson 4 = Orange 5 = Other (specify) _____
- 2 Flesh color: 1 = Uniform 2 = With lighter and darker areas in walls
- 3 Locular gel color of table-ripe fruit: 1 = Green 2 = Yellow 3 = Red
- 2 Ripening: 1 = Blossom-to-stem end 2 = Uniform
- 2 Ripening: 1 = Inside out 2 = Uniformly 3 = Outside in
- 2 Stem scar size: 1 = Small ('Roma') 2 = Medium ('Rutgers') 3 = Large
- 2 Core: 1 = Coreless (absent or smaller than 6x6 mm) 2 = Present
- 2 Epidermis color: 1 = Colorless 2 = Yellow
- 2 Epidermis: 1 = Normal 2 = Easy-peel
- 2 Epidermis texture: 1 = Tender 2 = Average 3 = Tough
- 7 Thickness of pericarp (mm) 6 Thickness of pericarp. Check var. no. 22
- Anthocyanin in hypocotyl of 2-15 mc seedling: 1 = Absent 2 = Present 2 Habit of 3-4 week old seedling: 1 = Normal 2 = Compact

8. RESISTANCE TO FRUIT DISORDER (Use code: 0 = Unknown 1 = Susceptible 2 = Resistant)

- | | | | |
|---------------------------|-------------------------------|---------------------|-----------------------|
| <u>2</u> Blossom end rot | <u>2</u> Catface | <u>0</u> Fruit pox | <u>2</u> Zippering |
| <u>0</u> Blotchy ripening | <u>2</u> Cracking, concentric | <u>0</u> Gold fleck | Other (specify) _____ |
| <u>2</u> Bursting | <u>2</u> Cracking, radial | <u>2</u> Graywall | |

9. DISEASE AND PEST REACTION (Use code: 0 = Unknown 1 = Susceptible 2 = Resistant) NOTE: If claim of novelty is based wholly or in substantial part upon disease resistance, trial data should be appended. These should specify the method of testing, the reaction of the application variety, and reaction of well-known check varieties grown in the trial (identified by name).

Viral Diseases:

- | | | |
|---------------------------------------|----------------------------------|---|
| <u> </u> Cucumber mosaic | <u> </u> Tobacco mosaic, Race 0 | <u> </u> Tobacco mosaic, Race 2 ² |
| <u> </u> Curly top | <u> </u> Tobacco mosaic, Race 1 | <u> </u> Tomato spotted wilt |
| <u> </u> Potato-Y virus | <u> </u> Tobacco mosaic, Race 2 | <u> </u> Tomato yellows |
| <u> </u> Blotchy ripening | <u> </u> Cracking, concentric | <u> </u> Gold fleck |
| <u> </u> Other virus (specify) _____ | | |

Bacterial Diseases:

- | | |
|--|--|
| <u> </u> Bacterial canker (<i>Corynebacterium michiganense</i>) | <u> </u> Bacterial spot (<i>Xanthomonas vesicatorum</i>) |
| <u> </u> Bacterial soft rot (<i>Erwinia carotovora</i>) | <u> </u> Bacterial wilt (<i>Pseudomonas solanacearum</i>) |
| <u> </u> Bacterial speck (<i>Pseudomonas tomato</i>) | <u> </u> Other bacterial disease (specify) _____ |

Fungal Diseases:

- | | |
|--|--|
| <u> </u> Anthracnose (<i>Colletotrichum</i> spp.) | <u> </u> Leaf mold, Race 1 (<i>Cladosporium fulvum</i>) |
| <u> </u> Brown root rot or corky root (<i>Pyrenochaeta lycopersici</i>) | <u> </u> Leaf mold, Race 2 |
| <u> </u> Collar rot or stem canker (<i>Alternaria solani</i>) | <u> </u> Leaf mold, Race 3 |
| <u> </u> Early blight defoliation (<i>Alternaria solani</i>) | <u> </u> Leaf mold, other races (specify) _____ |
| <u>2</u> Fusarium wilt, Race 1 (<i>F. oxysporum f. lycopersici</i>) | <u> </u> Nailhead spot (<i>Alternaria tomato</i>) |
| <u>2</u> Fusarium wilt, Race 2 | <u> </u> Septoria leafspot (<i>S. lycopersici</i>) |
| <u> </u> Fusarium wilt, Race 3 | <u> </u> Target leafspot (<i>Corynespora casicola</i>) |

9. DISEASE AND PEST REACTION (continued)

Fungal Diseases:

- 2 Gray leaf spot (*Stemphylium* spp.)
 ___ Late blight, Race 0 (*Phytophthora infestans*)
 ___ Late blight, Race 1

- 2 Verticillium wilt, Race 1 (*V. albo-atrum*)
 ___ Verticillium wilt Race 2

- 2 Other fungal disease (specify) Alternaria Stem Canker
(Alternaria alternata f. sp. lycopersici)

Insects and Pests:

- ___ Colorado potato beetle (*Leptinotarsa decemlineata*)
 ___ Southern root knot nematode (*Meloidogyne incognita*)
 ___ Spider mites (*Tetranychus* spp.)
 ___ Sugar beet army worm (*Spodoptera exigua*)
 ___ Tobacco flea beetle (*Epitrix hirtipennis*)
- ___ Tomato hornworm (*Manduca quinquemaculata*)
 ___ Tomato fruitworm (*Heliothis zea*)
 ___ Whitefly (*Trialeurodes vaporariorum*)
 ___ Other (specify) _____

Pollutants:

- ___ Ozone
 ___ Sulfur dioxide
 ___ Other (specify) _____

10. CHEMISTRY AND COMPOSITION OF FULL-RIPE FRUITS Suggested test methods may be found in "Tomato Products", 5th ed., National Canners Assn. Bull. 27-L. Please specify test methods or give a reference to methods used. Fill in table below with values for the new variety and for at least one well-known check variety of similar type grown in the same trial. Specify names or numbers of check varieties.

	Submitted Variety	Check Variety <u>FL 7171</u>	Check Variety	Check Variety
pH	<u>4.36</u>	<u>4.35</u>		
Titrateable acidity, as % citric	<u>0.32192</u>	<u>0.36992</u>		
Total solids (dry matter, seeds and skin removed)	<u>5.84%*</u>	<u>—</u>		
Soluble solids as °Brix	<u>5.06</u>	<u>5.46</u>		

- *Our VORNL Lab Manager reported that this value includes skin and seeds.
 11. PHENOLOGY Express length of developmental stages either as calendar days or as heat units (growing degree days), in degrees Celsius. If heat units are used, indicate the base temperature used in their calculation near ____ °C. See paper by Warnock under "References" for method. Give comparative data for at least one check variety; identify checks by name or by number from table on page 1.
per letter Sept 5, 2007
LMC 9-10-2007

	Application Variety	Check Variety	Check Variety	Check Variety
Seeding to 50% flow (1 open on 50% of plants)				
Seed to once over harvest (if applicable)				

- 2 Fruiting season: 1 = Long ('Marglobe') 2 = Medium ('Westover') 3 = Short, concentrated ('VF 145') 4 = Very concentrated ('UC 82')
2 Relative maturity in areas tested: 1 = Early 2 = Medium early 3 = Medium 4 = Medium late 5 = Late 6 = Variable
 (If relative maturity is known to differ by location or environment, please explain on separate sheet)

12. ADAPTATION If more than one category applies, list all in rank order.

- 1 Culture: 1 = Field 2 = Greenhouse
 ___ 2 Principle use(s): 1 = Home garden 2 = Fresh market 3 = Whole-pack canning 4 = Concentrated products
 5 = Other (specify) _____

- 1 Machine harvest: 1 = Not adapted 2 = Adapted

- 4 3 Regions to which adaptation has been demonstrated:

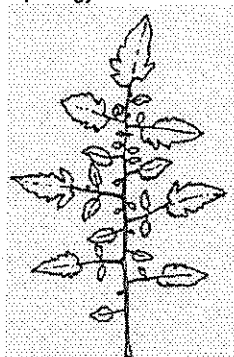
- 1 = Northeast 2 = Mid Atlantic 3 = Southeast
 6 = South-central 7 = Intermountain West 8 = Northwest
 10 = California: Coastal Areas 11 = California: Southern San Joaquin Valley & Deserts

- 4 = Florida 5 = Great Plains
 9 = California: Sacramento and Upper San Joaquin Valley

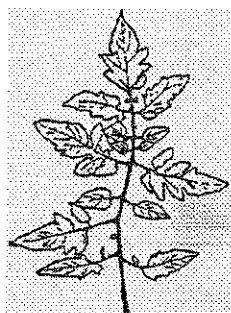
ILLUSTRATIONS OF TOMATO LEAF AND FRUIT CHARACTERISTICS

4. LEAF

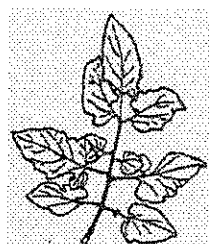
Morphology:



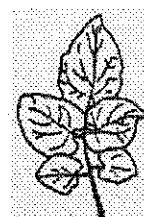
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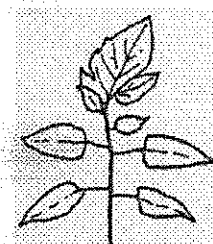
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(3)



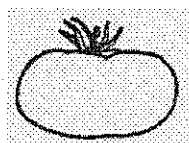
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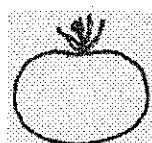
(5)

7. FRUIT

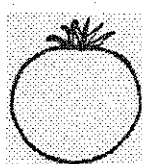
Typical fruit shape:



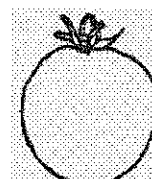
(1)



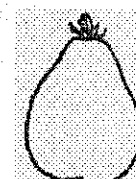
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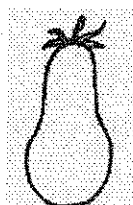
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(4)



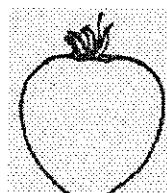
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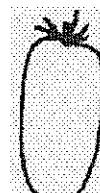
(6)



(7)



(8)

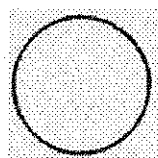


(9)



(10)

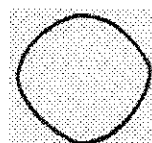
Shape of transverse section:



1 = Round



2 = Flattened



3 = Angular

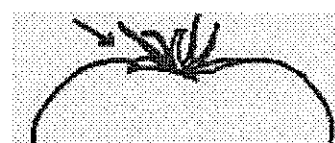


4 = Irregular

Shape of stem end:

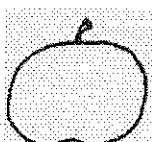


1 = Flat

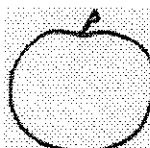


2 = Indented

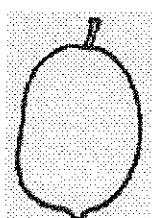
Shape of blossom end:



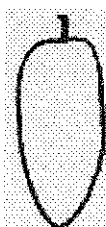
1 = Indented



2 = Flat

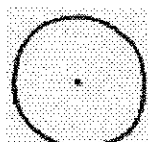


3 = Nipped

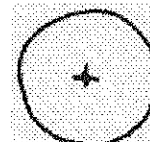


4 = Tapered

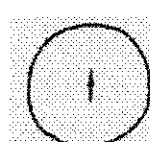
Shape of pistil scar:



1 = Dot



2 = Stellate



3 = Linear



4 = Irregular

REFERENCES

- Anonymous, 1976. All About Tomatoes. Ortho Books, Chevron Chemical Co., San Francisco. In three volumes: Midwest/Northeast Edition, West Edition, and South Edition.
- Ware, G.W. & J.P. McCollum, 1968. Producing Vegetable Crops. The Interstate Printer & Publishers, Inc., Danville, Illinois. Chapter 30, pp. 451-473, "Tomatoes".
- Warnock, S.J. 1978. Using Tomato Heat Units. Leaflet No. 6, Campbell Institute for Agricultural Research, Camden, NJ. 10 p.
- Webb, R.E., T.H. Barksdale, & A.K. Stoner, 1973. "Tomatoes", pp. 344-361, in: Nelson, R.R. (Ed.), Breeding Plants for Disease Resistance. Pennsylvania State University Press, University Park.
- Young, P.A. & J.W. MacArthur, 1947. Horticultural characters of tomatoes. Bull. Texas Agric. Exper. Station No. 698.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) Seminis Vegetable Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME FDR 14-2056
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 2700 Camino del Sol Oxnard, CA 93030-7967	5. TELEPHONE (Include area code) (805) 647-1572	6. FAX (Include area code) (805) 918-2545
7. PVPO NUMBER		200500320

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES ☐ NO

10. Is the applicant the original owner?

☒ YES☐ NOIf no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES☐ NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

The variety named in this application was developed by the Seminis Vegetable Seeds, Inc., employee (breeder) named below. Unless otherwise stated, all rights to the varieties developed by Seminis Vegetable Seeds, Inc. are assigned to the Company by agreement or by operation of law. No rights to such invention, discovery or development are retained by the employee(s).

Employee (Breeder): Wayne Fowler

Site Location: Naples, FL

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) Seminis Vegetable Seeds, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 2700 Camino del Sol Oxnard, CA 93030	TEMPORARY OR EXPERIMENTAL DESIGNATION
NAME OF OWNER REPRESENTATIVE (S) Carol L. Miller	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 2700 Camino del Sol Oxnard, CA 93030	VARIETY NAME FDR 14-2056
	37437 State Highway 16 Woodland, CA 95695	FOR OFFICIAL USE ONLY
		PVPO NUMBER #200500320

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Carol L. Miller
Signature

20-Jul-07
Date